Preventing Sexual Risk Behaviors Among Gay, Lesbian, and Bisexual Adolescents: The Benefits of Gay-Sensitive HIV Instruction in Schools

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ABSTRACT

Objectives. This study compared sexual risk behaviors of gay, lesbian, and bisexual (GLB) and heterosexual adolescents and evaluated associations between gay-sensitive HIV instruction and risk behaviors of GLB youths.

Methods. A random sample of high school students and HIV education teachers completed surveys. Self-reported risk behaviors of heterosexual and GLB adolescents were compared, with control for student and community demographic characteristics. Sexual risk behaviors of GLB youths in schools with and without gay-sensitive instruction were compared.

Results. GLB youths reported more substance use, high-risk sexual behaviors, suicidal thoughts or attempts, and personal safety issues than did heterosexual youths ($P<.001$). Among those who were sexually active, GLB youths reported more lifetime and recent sexual partners than did heterosexuals ($P<.001$), and more of them reported alcohol use before last sex ($P<.01$) and a history of pregnancy ($P<.001$). GLB youths in schools with gay-sensitive instruction reported fewer sexual partners, less recent sex, and less substance use before last sex than did GLB youths in other schools ($P<.05$).

Conclusions. The findings document increased risk behaviors among GLB youths and demonstrate the potential benefits of providing gay-sensitive HIV instruction in schools. (*Am J Public Health.* 2001;91:940–946)

Although AIDS and HIV prevalence rates remain high among young men who have sex with men,[1–5] gay, lesbian, and bisexual (GLB) youths continue to engage in sexual risk behaviors.[6–10] Rates of homicide, physical and sexual assault, and other forms of victimization against and among GLB youths tend to exceed those of their heterosexual peers.[11–14] GLB adolescents are at increased risk for mental health problems and associated high-risk behaviors, including substance use,[6–8,15,16] depression and emotional distress,[15,17] and suicide.[6,7,12,17–21]

Few studies of prevention interventions targeting GLB adolescents have been published. Environmental factors associated with sexual orientation play a major role in predicting psychological distress among GLB youths.[17] For example, gay-related stressful life events, victimization experiences, social rejection, and isolation were moderately to highly associated with emotional distress and problem behaviors,[22] delinquency,[23] use of substances to cope with stress,[16,24] high-risk sexual behavior,[25] and suicide attempts and ideation among GLB youths.[12,20,24,26–28] Conversely, family and school connectedness, high self-esteem, and personal resources were negatively associated with risk behaviors of GLB adolescents.[15,18,22,29]

However, like most HIV interventions,[30] interventions implemented with GLB youths have been narrowly focused. Although successful,[31–34] none of these interventions were school-based, they focused primarily on reducing sexual risk behaviors among gay and bisexual males, and the participants' ages spanned adolescence and young adulthood (ages 13–29 y). Little attention was given to the host of developmental, gender, or identity issues and gay-related stressors contributing to risk.

This study had 2 objectives: first, to compare the sexual, substance use, and safety risk behaviors of heterosexual and GLB high school students, and second, to determine whether gay-sensitive HIV instruction in high school would be associated with reductions in rates of high-risk sexual behaviors among GLB youths. We expected that GLB youths would be at increased risk and that those attending schools where gay-sensitive HIV instruction was provided would report lower levels of sexual risk behaviors.

Factors important to ensure the effectiveness of prevention programs for GLB adolescents include inclusive instruction, adequate support services, acknowledgment of diversity, and a nondiscriminatory school climate.[31,33–38] Inclusive instruction is gay sensitive and addresses self-management and social skills relevant to GLB youths.[33] For example, HIV prevention programs might be gender-neutral or address the full range of sexual partner relationships that exist. Various authors have prescriptively recommended strategies to reduce gay-related stressors and high-risk behaviors in schools[29,39–52]; however, few such interventions have been evaluated.[51–53]

Background

In 1993, the Massachusetts State Board of Education adopted 4 recommendations of the Governor's Commission on Gay and Lesbian Youth to improve the school environment for GLB students: (1) develop policies pro-

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tecting GLB youths from harassment, violence, and discrimination; (2) offer training to school personnel on sexual orientation, violence, and suicide prevention; (3) offer support groups for GLB and heterosexual students to discuss GLB issues in a safe and confidential environment; and (4) provide counseling services to GLB students and family members.

School districts could apply to the Massachusetts Department of Education for funding to develop recommended policies and programs through the "Safe Schools" grant program.[54,55] State staff provided training and technical assistance, resolved complaints, and answered questions about GLB issues from faculty, parents, and the community. At the time of this study, 28% of Massachusetts high schools had developed student-run, faculty-advised gay–straight alliances for GLB and heterosexual adolescents.

Methods

Sample

A multistage cluster sampling design was employed to obtain a representative sample of adolescents enrolled in public high schools as part of the 1995 Massachusetts Youth Risk Behavior Survey. At the first stage of sampling, 63 of 299 schools with 100 or more students in grades 9 through 12 were randomly selected with probability proportional to school size. The overall school response rate was 94%; 59 of 63 schools agreed to participate. On average, 3 to 5 required classes (e.g., English, homeroom) per school were randomly selected at the second stage of sampling, yielding a total of 5370 students, 4159 of whom completed the survey (77% response rate).

A census of HIV education teachers in these same schools was enumerated by asking district health coordinators who "you know or think taught HIV education to students during the 1994–95 school year." Surveys were returned by 174 (77%) of the 226 teachers enumerated. Five teachers who were not originally enumerated also returned surveys, raising the total sample to 179.

Data Collection

The Youth Risk Behavior Survey was administered to students by Department of Education staff in selected classrooms. Parental consent was not required, although some districts notified parents and gave them the option of refusing to allow their child to participate. Standardized instructions given to the students described the survey's purpose and the confidential and voluntary nature of the study. HIV education teachers were mailed surveys and asked to return them within 2 weeks. A follow-up postcard and a second survey were sent 2 and 3 weeks later to nonresponding teachers.

Independent and Dependent Variables

Sexual orientation and practices. Adolescents were classified as GLB on the basis of 2 survey items: self-reported GLB identification and same-sex sexual behaviors. Those who self-identified as GLB were classified as such irrespective of the gender of their sexual partners. Those who did not identify themselves as GLB but who reported same-sex sexual contacts were also classified as GLB. In short, we looked at sexual orientation first by declaration and then by behavior.

On the basis of these criteria, 3496 (94.5%) of the adolescents were classified as heterosexual, 151 (4.2%) as GLB, and 55 (1.3%) as "not sure." Those who remained in the "not sure" category following classification were excluded from subsequent analyses.

GLB-sensitive HIV instruction. Teachers who provided HIV instruction answered 3 questions related to their perceived ability to meet the needs of GLB students: (1) their overall confidence in providing HIV instruction, (2) the adequacy of the HIV curriculum they used, and (3) the appropriateness of supplementary materials. Item responses ranged from 0 to 4 (0="does not apply" [for teachers who did not believe that they taught GLB students]; 1="strongly disagree"; 4="strongly agree"). A summary variable was created for each teacher by averaging responses across all 3 items.

Individual teachers' scores were then weighted to reflect the proportion of students in their school to whom they had provided HIV education that school year, and a weighted average for the school was calculated across all HIV teachers in that school. Cutpoints were established on the basis of a quartile split to yield an overall rating for each high school (0=does not apply; 1=minimal GLB sensitivity; 2=low GLB sensitivity; 3=moderate GLB sensitivity; and 4=high GLB sensitivity). This rating essentially reflected the extent to which the teachers perceived the HIV instruction provided in these schools as sensitive and appropriate to the needs of GLB students.

The distribution of schools in each sensitivity category was as follows: none or minimal, 56%; low, 24%; moderate, 13%; high, 7%. School districts with gay-sensitive HIV instruction had higher median family incomes, a lower percentage of families with low incomes, and lower student dropout rates ($P<.001$).

Youth risk behaviors. Standard Youth Risk Behavior Survey risk behavior items, evaluated for reliability elsewhere,[56] served as dependent variables in all analyses. Use of alcohol, marijuana, and cocaine in the past 30 days and lifetime use of intravenous and miscellaneous other drugs were assessed. Sexual risk behaviors included lifetime and recent sexual intercourse, age at first intercourse, the number of lifetime and recent sexual partners, alcohol or condom use at last intercourse, and ever having been pregnant or gotten someone else pregnant.

Three items reflected suicidal thoughts and attempts: having considered suicide, having a plan about how to commit suicide, and having attempted suicide within the previous year. Seven items addressed issues of violence, victimization, and personal safety: (1) carrying a weapon (past 30 days), (2) missing school out of concern for personal safety (past 30 days); being (3) threatened or (4) injured with a weapon (past 12 months); having personal property (5) damaged or (6) stolen on school property (past 12 months); and (7) getting into a physical fight on school property or requiring medical treatment (past 12 months).

With regard to HIV instruction, students were asked if they had ever received instruction on preventing HIV/AIDS, attended a presentation by a person with AIDS, or been taught how to use condoms. A summary score reflecting a count of the number of different types of HIV education received was also created (range=0 to 3).

Data Analyses

Matched and linked data between students and teachers who provide HIV instruction were available from 54 schools, reducing the student sample available for analyses to 3702. To determine whether GLB adolescents were at increased risk for substance use, sexual behavior, suicide, and victimization, we compared responses from GLB and heterosexual adolescents. We used univariate logistic regression analyses for dichotomous variables and analysis of covariance (ANCOVA) procedures for continuous dependent variables, controlling for student (age, sex, and ethnicity) and community (income level and urbanicity) demographic characteristics.

To determine whether gay-sensitive HIV instruction was associated with reduced sexual risk behaviors, we compared the responses of GLB adolescents in schools with and without gay-sensitive HIV instruction, using the analytic procedures described above. Finally, we compared GLB and heterosexual youths in schools with and without gay-sensitive HIV instruction, using 2 (GLB vs heterosexual youths) × 2 (no/minimal/low vs moderate/high gay-sensitive-instruction schools) ANCOVAs and parallel logistic regression analy-

TABLE 1—Demographic Characteristics of Sample: Massachusetts High School Students, 1995

	Overall (n=3647), %	Heterosexual Students (n=3496), %	Gay, Lesbian, and Bisexual Students (n=151), %	*P*
Age, y				.031
≤14	9.4	9.6	6.7	
15	23.7	23.9	19.2	
16	26.9	26.8	28.7	
17	24.1	24.2	21.2	
≥18	15.9	15.5	24.2	
Sex				.099
Female	49.0	49.2	42.6	
Male	51.0	50.8	57.5	
Grade				.986
9th	28.0	28.0	28.3	
10th	25.6	25.6	24.9	
11th	24.0	24.0	23.3	
12th	22.5	22.4	23.6	
Race/ethnicity				<.001
White, non-Hispanic	77.7	78.1	69.0	
Black, non-Hispanic	5.9	5.9	7.8	
Hispanic or Latino	7.4	7.5	5.1	
Asian or Pacific Islander	3.7	3.7	4.7	
American Indian or Alaskan Native	0.8	0.6	5.3	
Other	4.5	4.4	8.2	
Gay-sensitive instruction				.019
None/minimal	52.5	52.7	47.4	
Low	27.1	27.2	24.9	
Moderate	12.3	12.2	12.9	
High	8.2	7.9	14.9	
Gay–straight alliance school				.540
Yes	11.4	11.5	9.9	
No	88.6	88.5	90.1	

ses to determine whether there were any interaction effects.

All data were weighted to reflect the multistage sampling design and nonresponse, and analyses were performed with SUDAAN (Research Triangle Institute, Research Triangle Park, NC) to account for the clustered sampling design.

Results

Sample Characteristics

Compared with heterosexual students, GLB students were slightly older, less likely to be non-Hispanic White, and more likely to be enrolled in schools with a high level of gay-sensitive instruction (Table 1).

Seventy-nine percent of the teachers were trained to provide HIV instruction (45% within the previous year), and half were certified in health education. Among the 88% who had provided HIV instruction within the previous year, more than 80% addressed key prevention topics such as relationship development, self-control, communication and negotiation skills, and condom access or use. Most used skills-based instructional methods (73%), but fewer included condom demonstrations (52%), presentations by persons with AIDS (30%), or evidence-based curricula (18%) in instruction.

Ninety-eight percent of the teachers who provided HIV instruction had taught their students about sexual orientation during the previous year, 48% with "some" or "strong" emphasis. Most teachers who provided HIV instruction said they felt confident (87%) and had appropriate curricula (72%) to teach GLB students, but fewer (42%) felt they had appropriate materials and resources. Teachers who provided gay-sensitive instruction were more comfortable with and committed to teaching about the subject matter and using effective instructional strategies ($P<.01$).

Comparisons Between GLB and Heterosexual Adolescents

Compared with heterosexuals, GLB youths were significantly more likely to report lifetime and recent (past 30 days) substance use and lifetime and recent (past 3 months) sexual intercourse (Table 2). Among sexually active adolescents, GLB youths reported an earlier age at first intercourse, more lifetime and recent sexual partners, and, somewhat surprisingly, higher pregnancy rates. At last sexual intercourse, GLB youths were more likely than heterosexuals to use alcohol or drugs before sex, but no more or less likely to use a condom. GLB youths were twice as likely to consider or plan, and 4 times as likely to have attempted, suicide. They were also more likely to have missed school for safety reasons, to have been threatened, and to have had property taken or damaged in the previous year. GLB youths were significantly less likely than heterosexuals to have received HIV prevention instruction in school.

Comparisons Between GLB Youths in Schools With and Without Gay-Sensitive HIV Instruction

Significant differences in recent sexual practices were found between GLB students in schools that also differed in the extent to which HIV instruction was gay-sensitive (Table 3). Compared with GLB students in schools in the "none or minimal" or "low" sensitivity categories, those who received highly gay-sensitive instruction were less likely to have had sex within the previous 3 months, had had fewer sexual partners, and were less likely to have used alcohol or drugs prior to last sexual intercourse. Receipt of HIV instruction or having talked to parents about HIV was not associated with the extent to which instruction in schools was gay-sensitive.

Interactions Between GLB Status and Schools With and Without Gay-Sensitive HIV Instruction

Significant interactions were found between student GLB status and the sensitivity of HIV instruction provided in schools on 4 of the variables presented in Table 2. In each instance, GLB youths were at greatest risk in schools where no or minimal levels of gay-sensitive HIV instruction existed. GLB youths in these schools were significantly more likely than their heterosexual schoolmates and than both GLB and heterosexual students in schools with moderate or high levels of gay-sensitive instruction to report becoming or getting someone pregnant (33.7% vs 11.1%, 17.9%, and 10.3%, respectively; $P<.05$); having a higher number of recent sexual partners (2.4 vs 1.0, 1.3, and 1.1; $P<.001$); making a plan to commit suicide (45.7% vs 17.6%, 27.7%, and 20.7%; $P<.01$); missing school for personal safety reasons (23.4% vs 4.7%, 12.2%, and 6.0%; $P<.05$); and having property damaged or stolen (54.1% vs 28.0%, 45.1%, and 29.6%; $P<.05$).

TABLE 2—Distribution of Risk Behaviors, Personal Safety, and HIV Instruction Among Heterosexual and Gay, Lesbian, and Bisexual Adolescents: Massachusetts, 1995

	Overall (n=3647), %	Heterosexual Students (n=3496), %	Gay, Lesbian, and Bisexual Students (n=151), %	*P*
Substance use, %				
Drinking (past 30 d)	54.2	53.6	69.7	.012
Marijuana (past 30 d)	33.2	32.0	57.9	<.001
Cocaine (past 30 d)	3.4	2.8	19.0	<.001
Miscellaneous drugs (lifetime)	29.2	27.3	60.5	<.001
Intravenous drugs (lifetime)	3.1	2.2	24.0	<.001
Lifetime sexual practices				
Had sexual intercourse, %	47.6	47.8	86.2	<.001
Age at first intercourse, mean (SE), y[a]	14.3 (0.04)	14.3 (0.04)	13.7 (0.15)	<.001
No. of sexual partners, mean (SE)[a]	2.8 (0.05)	2.7 (0.05)	3.6 (0.19)	<.001
Used alcohol or drugs before last sex, %[a]	29.7	28.2	43.6	.004
Used condom during last sex, %[a]	58.2	58.4	50.7	.128
Recent sexual practices (past 3 mo)				
Had recent sexual intercourse, %	33.7	33.8	68.5	<.001
No. of sexual partners, mean (SE)[b]	1.1 (0.03)	1.1 (0.03)	2.1 (0.13)	<.001
Ever been or gotten someone pregnant, %[a]	11.9	11.0	30.0	<.001
Personal safety (past 12 mo), %				
Seriously considered suicide	26.3	25.4	47.3	<.001
Planned how to attempt suicide	19.1	18.2	41.8	<.001
Attempted suicide	10.2	9.4	36.1	<.001
Missed school because of unsafe environment	5.3	5.0	20.3	<.001
Threatened or injured	7.7	6.9	28.3	<.001
Property damaged or stolen	29.7	28.3	51.6	<.001
HIV-related instruction, %				
Received instruction on preventing HIV/AIDS	89.7	90.4	71.4	<.001
Received presentation from person with AIDS	50.9	51.0	46.4	.274
Taught how to use a condom	50.2	50.9	45.1	.045
Talked to parents about AIDS	58.2	58.4	55.9	.741

Note. Covariates were percentage low-income families (federal definition), kind of community, and age, sex, and race of student.
[a]Only sexually active students.
[b]Only students sexually active in past 3 mo.

TABLE 3—Associations Between Gay-Sensitive HIV Instruction and the Sexual Practices of Gay, Lesbian, and Bisexual Adolescents: Massachusetts, 1995

			Level of Gay-Sensitive Instruction					
	Odds Ratio	95% Confidence Interval	None/ Minimal (n=72)	Low (n=35)	Moderate (n=19)	High (n=19)	*P*	Comparisons[a]
Lifetime sexual practices								
Had sexual intercourse, %	0.60	0.35, 1.04	94.9	87.2	81.9	79.4	.067	
Age at first intercourse, mean (SE), y[b]	—		13.5 (0.26)	14.0 (0.37)	14.1 (0.56)	13.7 (0.51)	.706	
No. of sexual partners, mean (SE)[b]	—		4.0 (0.30)	3.5 (0.41)	2.9 (0.68)	2.6 (0.61)	.142	
Used alcohol or drugs before last sex, %[b]	0.51	0.32, 0.85	50.5	49.7	23.0	13.0	.010	$c^{0.05}$,$e^{0.05}$
Used condom during last sex, %[b]	1.16	0.77, 1.75	53.6	38.0	64.9	60.5	.471	
Recent sexual practices (past 3 mo)								
Had recent sexual intercourse, %	0.61	0.41, 0.91	78.2	71.9	82.6	39.1	.014	$c^{0.01}$,$e^{0.05}$,$f^{0.05}$
No. of sexual partners, mean (SE)[c]	—		2.2 (0.31)	2.6 (0.41)	2.0 (0.68)	0.6 (0.57)	.033	$c^{0.05}$,$e^{0.05}$
Ever been or gotten someone pregnant, %[b]	0.53	0.27, 1.01	38.6	26.4	12.1	8.8	.057	
HIV-related instruction								
Received instruction on preventing HIV/AIDS, %	1.31	0.91, 1.89	67.0	70.8	87.8	77	.144	
Received presentation from person with AIDS, %	1.15	0.84, 1.58	43.0	47.8	51.8	52.1	.377	
Taught how to use a condom, %	1.25	0.91, 1.72	40.1	46.8	60.4	51.5	.169	
No. of instructional topics covered, mean (SE)[d]	—		1.5 (0.14)	1.7 (0.20)	1.9 (0.26)	1.8 (0.25)	.426	
Talked to parents about AIDS, %	1.22	0.88, 1.69	54.7	51.5	54.8	71.3	.244	

Note. Models controlled for kind of community, percentage low-income families (federal definition), and age, sex, and race of student.
[a]Where a=none vs low; b=none vs moderate; c=none vs high; d=low vs moderate; e=low vs high; f=moderate vs high level of gay-sensitive instruction.
[b]Only sexually active students.
[c]Only students sexually active in past 3 mo.
[d]Range=0–3.

Discussion

Consistent with previous research,[6,7,15,18,19] we found that GLB adolescents in Massachusetts were significantly more likely than heterosexual youths to engage in substance use, sexual risk behaviors, and suicide attempts and to experience threats to personal safety. Unfortunately, GLB youths were less likely than heterosexuals to report having received HIV instruction or instruction related to condom use, which was surprising. However, in schools where gay-sensitive HIV instruction was provided, GLB youths reported lower sexual risk behaviors.

In previous studies, GLB youths have been defined on the basis of self-reported sexual identification[7,18] or same-sex sexual behavior,[6] but not both. In this study, we used both self-identification and same-sex sexual behavior to classify youths as GLB, since sexual orientation is multidimensional and includes sexual identity, behavior, attraction or desire, and arousal.[57,58] Sexual identity and behavior are not synonymous.[59] For example, only 30% to 55% of adolescents who report same-sex sexual behavior identify themselves as being gay, lesbian, or bisexual.[18,60]

Additionally, GLB self-identification increases with age. The average age at first GLB awareness is 10 to 11 y, followed by self-identification (14–15 y), same-sex sexual experience (13–16 y), and first disclosure (16 y), whereas same-sex sexual relationships tend to occur later (16–17 y).[12,26,61] Gay or lesbian identification and same-sex sexual behaviors stabilize over time, while "not sure" and "bisexual" responses decline with age.[60] Thus, risk behavior estimates can be expected to vary depending on the variables used to define GLB status and on developmental or chronological age, highlighting the importance of controlling for age in statistical analyses. We controlled for the clustered sampling design, as well as for demographic differences between the adolescent respondents and between communities that might influence outcomes. Accordingly, the risk rates reported here differ from those found in earlier population-based studies in Massachusetts schools.[6,7]

Noteworthy in our findings were the earlier age at first intercourse, higher number of sexual partners, higher use of alcohol or drugs before last sex, and increased pregnancy rates among sexually active GLB youths. This greater risk-taking may be explained by the fact that the formation of sexual identity assumes greater significance among GLB youths than among heterosexual youths. Throughout the "coming out" period there tends to be a shifting of sexual orientation and self-identification,[57] and the pressure of a stigmatized sexual identity[62,63] forces some GLB adolescents to go to great lengths to prove to themselves and others that they are not gay.[64] For example, GLB and non-GLB youths report similar rates of heterosexual sex,[59,65] although rates vary depending on GLB identification, with bisexuals having higher rates.[58,66,67] Cross-sex experimentation between lesbian and gay male adolescents has been reported, with gay males using condoms less often with female partners than with male sexual partners,[58] and at least one study found higher pregnancy rates among lesbian than among heterosexual female adolescents.[65]

The teachers in this study were far more likely than teachers in earlier studies[35,68] to report feeling confident to teach GLB youths (87% vs 24%–37%) and to report that they had taught their students about sexual orientation (98% vs 46%). We learned that GLB youths in schools where gay-sensitive HIV curricula and materials were available and teachers expressed greater confidence in being able to meet their needs were less likely to engage in sexual risk behaviors, and that GLB youths in schools that did not provide gay-sensitive instruction were at greater risk than all other youths for HIV infection, pregnancy, suicide, and victimization. These results highlight the importance of training teachers to provide gay-sensitive HIV prevention instruction and of making appropriate materials available.

This study has several limitations as well as strengths. The adolescents in this study were in school and do not represent out-of-school youths. The data we collected were essentially cross-sectional and therefore were not designed to demonstrate causal relationships between independent and dependent variables. Further, it was not entirely clear what teachers meant when they said they had appropriate curricula and materials to meet the needs of GLB youths and therefore provided "gay-sensitive" instruction, which raises questions for clarification in future research.

Other factors, which we failed to account for in our analyses, may also explain these results. For example, schools with gay-sensitive instruction had higher median family incomes, a lower percentage of low-income students, and lower student dropout rates than other schools. Although we controlled for urbanicity and community income levels in our analyses, it may very well be that other social or environmental factors had an influence on student risk behaviors.

Conclusions

The Commonwealth of Massachusetts has demonstrated national leadership in developing state policies and programs to address the needs of GLB youths by promoting gay-sensitive instruction, providing training to reduce discrimination based on sexual orientation, and striving to create supportive school health services and environments. Our findings strongly suggest that teachers who receive appropriate training, curricula, and materials to provide gay-sensitive instruction in schools can make a difference in the lives of GLB youths. They also highlight the importance of promoting supportive school policies, services, and environments at the state level. Finally, they highlight the benefits of applied evaluation strategies and natural field experiments in measuring relationships between school-based prevention programs and risk behaviors or victimization experiences of GLB youths to discern, at least on a preliminary basis, whether school-based programs are making a difference.

These findings also raise speculation regarding the extent to which schoolwide policies and programs to reduce violence and discrimination against GLB students might reduce rates of victimization and suicide, as well as high-risk sexual and substance use behaviors, among GLB youths. The potential for detecting protective effects of having a gay-supportive school environment is now being explored. Data collected by the state of Massachusetts and others suggest that such school policies and programs may be beneficial.[52,69] The full benefits of socioenvironmental approaches that acknowledge sexual orientation as part of diversity programs and create a nondiscriminatory school climate for GLB youths remain to be revealed by further research. □

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